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**Are storks striking for a contract renewal? Childbirth under changing employment, family and welfare arrangements: Full Research Report ESRC End of Award Report**

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# Are Storks Striking for a Contract Renewal?

Employment and childbirth decisions under changing employment, welfare and family circumstances

Tiziana Nazio

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## Acknowledgements

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## About the author

**Tiziana Nazio** was a Career Development Fellow at the Sociology Department, Oxford University, and a Research Fellow at Nuffield College from October 2005 to September 2008. Since then, she became a Lecturer at the Department of Social Sciences (Faculty of Political Science) at Turin University. Before joining Oxford University and after graduating in Political Science at Turin University (1998), she completed her PhD at Bielefeld University (2000-2003), was a Marie Curie Postgraduate Fellow at the Centre for Demographic Studies in the Autonomous University of Barcelona (2003), and a Juan de la Cierva Research Fellow at the University Pompeu Fabra (2004-2005). Her research interests centre on family forms and how gender and family relationships may shape individuals' life courses and, in turn, affect more broadly equality in life chances in society. It is stimulated by the theoretical interest in how individuals' behaviours and relationships may contribute to generate mechanisms by which inequalities are created and sustained. Her most recent publications include *Cohabitation, Family and Society* (Routledge, 2007) and *Time Stress, Well-being and the Double Burden* (with J. MacInnes, 2007).

## Executive Summary

This study uses nationally representative longitudinal data –specifically, the European Community Household Panel (ECHP, 1994-2001), the British Household Panel study (BHPS, up to wave 15) and the Italian Panel Study (ILFI, up to wave 4)– to systematically examine the socio-demographic and job characteristics that help predict the timing of entry into -and exit from- the labour market as well as childbirth, both at the individual and the household level. It goes beyond traditional event history models by adding a focus on how some unobservable traits, preferences or characteristics that make individuals different from one another (unobserved heterogeneity) might influence these careers; and on how employment and fertility choices might be to some extent jointly determined (endogeneity). Disregarding these aspects produces biased estimates of the effects of predictors of interest on the risk of experiencing such events at the population level.

This report presents findings from the analyses of employment sequences, event history analysis models and simultaneous equations modelling and has three main objectives:

- to identify how uncertainty in employment relationships may influence individuals' childbirth decisions;
- to establish if employment participation and the decision to have a child are interrelated processes; and
- to explore if and how men's and women's employment decisions are related to their joint fertility choices.

## Objectives

“Do women limit their fertility in order to have time to pursue  
their nonfamily-oriented interests,  
or do women work if their fertility permits them to do so?”  
(Bumpass and Westoff 1970:95)

This chapter provides the broader context to the present study. First, some evidence to date on childbirth decisions and employment careers is provided. In Chapter 2 I outline the methodological framework, while Chapter 3 presents the results. These results are organised into three sections to allow findings for Italy and the United Kingdom to be explored separately. In Chapter 4 I discuss key findings and present key conclusions.

This project aims at empirically investigating the interrelationships between individuals' fertility and employment careers at the household level. It's objective is to provide empirical evidence about the effect of employment decisions over childbirth ones and *vice versa*, by exploring the degree of interconnectedness between labour market participation and parenthood. This research examines the effects of young partnered individuals' labour market participation on their reproductive behaviours in different institutional contexts. From a couple-level perspective, it contrasts the impact of both partners' labour force status on their joint fertility outcome, empirically testing for the endogeneity of childbirth and employment decisions.

Research on and around the topics of employment decisions and fertility is becoming increasingly more common. This study adds to this important evidence base by using three longitudinal nationally representative data sources – specifically, the European Community Household Panel (ECHP) and the Italian (ILFI) and British (BHPS) Household Panels – to systematically examine the trajectories in employment and the socio-demographic predictors of women's and men's decisions around childbirth and employment. It adds to the longitudinal focus the application of an innovative methodology, multilevel multiprocess models, which can accommodate the nested nature of family relationships and allow for correlated histories and repeated events (Steele et al. 2005).

There is already a relatively large and growing body of evidence based on cross-sectional and –increasingly– longitudinal data on women's childbirth decisions and participation to employment. Existing explanations of low fertility centre around a postponement of childbearing at later ages which could eventually lead to a concentration of childbearing into an increasingly narrow age interval (Kohler, Billari & Ortega, 2002); on increasing (economic) uncertainty in the transition to adulthood (Blossfeld et al. 2005) or on men's deteriorating labour market position (Oppenheimer 1988, 1994); on the paradox of weak and strong

families and the amount of resources which are expected to be invested in children (Saraceno 2004, Della Zuanna 2001); on the interrelationships of individuals' careers in the transition to adulthood (Billari & Kohler 2004); on the longer participation in education (Blossfeld & Huinink 1991); on women's participation in paid employment (where different authors stress elements such as employment security, tenure, job prestige or working hours); on scarce gender equity within couples in the distribution of paid and unpaid work (Ongaro 2002, McDonald 2000, Mills et al. 2008) and on increasing partnership instability (Oppenheimer 1994), particularly in linkage with the emergence of cohabitation as a partnership form alternative to marriage.

However, taken together there are a number of limitations to the evidence that existing theories offer: much of it is women-specific and most examine only one small facet of what is a highly complex issue. However perhaps the most significant drawback is the failure to take account of, the fact that individuals' decisions along their life course are a product of *both* their observed individual characteristics *and* some *unobservable* traits, attitudes and preferences (Barber 2001). This is a surprising omission given that we know from the literature that attitudes towards childbearing (together with subjective norms/social pressure) predict intentions, and that intentions predict behaviours (Barber 2001, Ajzen 1988, Mills et al 2008). We also already know that unmeasured traits, probably expression of attitudes towards gender roles, play a part in shaping both early educational choices and fertility outcomes (Martin-Garcia and Baizan, 2006)

Previous empirical research has also largely overlooked the fact that employment and fertility decisions are the result of a negotiation process between partners. This is in spite of the widespread acknowledgement that the assumption that women bare the main responsibility for unpaid domestic and care work in the private sphere structures their labour market opportunities across the life course and influences the strategies that households adopt in decisions about work-life articulation (Crompton and Brockmann 2007). This process of negotiation and convergence of interests and aspirations, guided and inspired by individuals' values, personal attitudes and preferences (together with their previous history), is pursued between partners within couples (Mills et al. 2008). It is *unobservable*, because made of repeated daily interactions and is shaped across time by many small daily decisions, most of which have consequences for future opportunities, choices and subsequent outcomes of negotiations (Sen 1990). Furthermore, they are not only inspired by the values and wants of the negotiating partners, but they contribute to shape, over time, a "couple specific" inclination towards a specific (preferred) balance between number of children and parental employment participation.

If a certain degree of agreement (if not convergence of intents) about having how many offspring and the distribution of paid and unpaid work is not achieved and maintained, the couple is unlikely to survive (Breen & Cooke, Gershuny et al 2005, Sen 1990). However, none of the existing research uses multi-level statistical modelling to take into account this nested nature of individuals within

families and the unobservable traits that may influence jointly both partners' decisions around fertility and employment.

In order to address these shortcomings, this project uses multi-level modelling and simultaneous equations with the objective of taking into account the nested and interrelated nature of these relationships. It uses event history analysis techniques and simultaneous equations modelling with the further objective of answering the following three research questions:

- Does (increasing) uncertainty in employment relationships influence childbirth decisions?
- Are employment participation and the decision to give birth interrelated processes? And if so, are these inter-links the same for men and women and across countries?
- Is there a link between men's and women's decisions to participate in employment and their joint fertility choices?

The rest of this report describes how these three objectives were successfully achieved, and answers to the questions are found below (key findings). In addition, the funding also allowed the dissemination of the results through the construction of a website and participation at academic conferences; statistical training and the consolidation of international networks of collaboration and participation in two workshops and a conference within the GeNet ESRC programme. However, In order to pursue these objectives the initial plan to use ECHP data on a wider selection of countries had to be abandoned and national panel sources, with a retrospective component, were used instead. This change was due to the need to overcome the problem of left truncation in the processes and being able to detect the initial date of the relevant calendars (starting date of a partnership), which was unspecified for cohabiting unions in the European wide data.



## Methodological framework

The current study builds on the existing research on individuals' characteristics known to be associated with fertility and employment behaviours of men and women. It adopts a multi-level approach and uses data from the ECHP (1994-2001), the BHPS (1991-2006) and ILFI (1997-2005) household panels. A number of different statistical models were constructed using these data, considering potential socio-demographic and attitudinal (for ECHP only) predictors of employment and fertility choices at the individual level, as well as at the household level; the results from one of which are presented here. The first half of this chapter provides an overview of the approach taken to the modelling work. The second half describes the predictor variables examined in this study.

I chose to implement for this research a simultaneous equations model for the analysis of correlated event histories, in which the probability to enter or exit employment, for heterosexual partners living together in a couple relationship is modelled jointly with the probability of giving birth to a child. The analyses distinguish the type of relationship entered, as cohabitation or marriage, in accordance with the different effects that most recent literature has found on both the transitions to childbirth and around employment (Blossfeld et al 2001, Wu 2000).

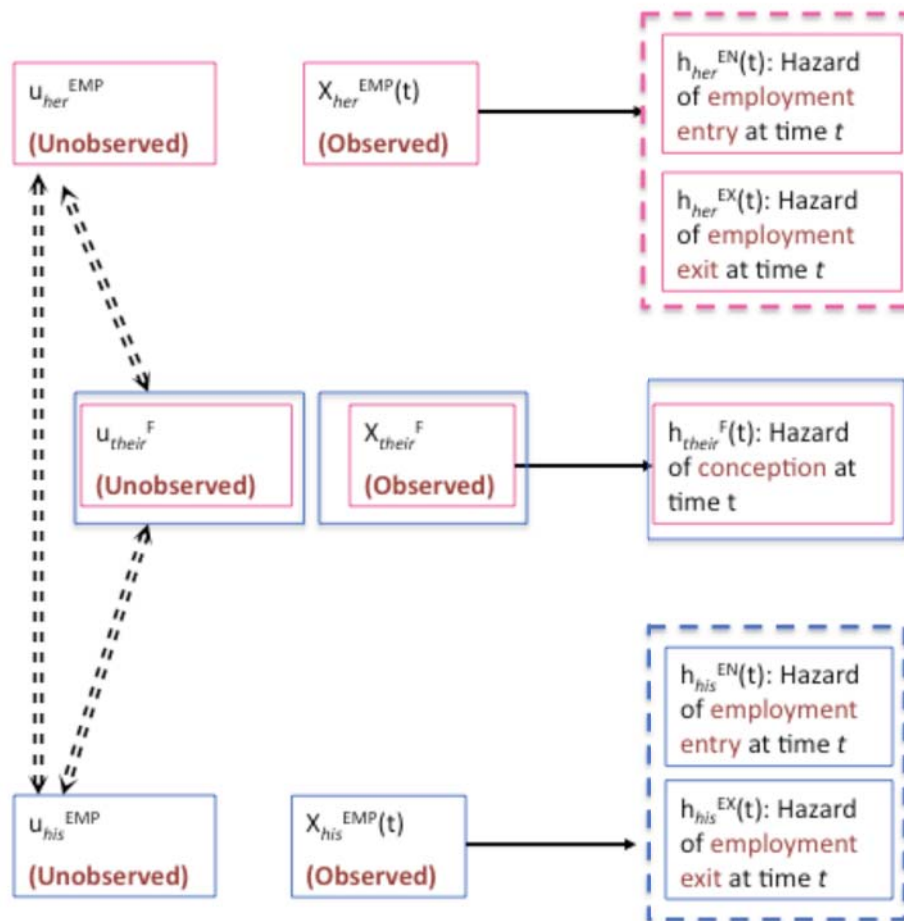
A multilevel discrete time event history model (Steele et al. 2004) was chosen for modelling childbirth transitions (parity was controlled for in the model, with 2<sup>nd</sup> birth as the reference category) and entry or exit from the labour market for each partner in an heterosexual couple where both were in reproductive ages (16-45 years for women and 16-50 for men, and 14-45 or 14-50 in IT and the UK respectively).

Because of the multilevel data structure, where repeated births and labour market transitions are nested within individuals, which are in turn members of couples, and because of the theoretical interest on common (unmeasured) determinants of the different processes, I've estimated jointly the models for conceptions and labour market transitions within partnerships using simultaneous equation (multiprocess) models.

The analysis is at the household level, with formally five equations: (1) conception of a child (set at 7 months prior to live births), (2) women's employment entries, (3) women's employment exits, (4) men's employment entries and (5) men's employment exits. However, it must be noted that each individual, *at each point in time*, can only be at risk of one employment transition only: either to enter the labour market if out, or the reverse. Figure 1 illustrates the schema of the analysis.

Figure 1.

## Multiprocess model of employment transitions and fertility



Beside direct effects of individuals' observed characteristics, my interest was on those factors (some of which unobserved), which might influence both decisions about labour market transitions and childbearing. My hypothesis was that these effects are stronger for women than for men with respect to employment and fertility, because it is women who tend most often to experience trade-offs between career aspirations and responsibility for unpaid care work once children are born (Ginn et al 1996). Furthermore, if these factors are significant but are ignored, the effects of interest will be biased (Lillard 1993, Aassve 2004, Steele et al 2005, Steele 2008).

A number of variables were selected in the modelling to capture the various dimensions of an individual's and his/her household socio-economic situation (represented by  $X$  in Figure 1). Measured characteristics included those (time varying) predictors already known from the literature to have an effect on the hazards of interest like individuals' age (centred), birth cohort, educational level, part-time working hours, sector of employment (public/private), type of contract (temporary/permanent), number of years of acquired work experience (as a proxy for investment in the labour career), number of children and age of

the youngest one, if respondent had already children from previous unions (or as a single parent), type of union (cohabitation/marriage) and partners' educational and job characteristics (or non employment). A full list of the socio-demographic variables employed is given in Appendix B.

Unmeasured characteristics were modelled by allowing for unobserved heterogeneity ( $u$  in Figure 1). While the extent to which partners' careers were – in part- influenced jointly (endogeneity) was assessed by allowing for correlation between the unobserved factors affecting the fertility and employment histories (dotted thick arrows in Figure 1).

A major part of the time spent for the project was devoted to preparing the ILFI and BHPS partnership, fertility and employment histories data for analysis (to a much lesser extent, for the ECHP data too). In the national panel data, fertility, employment and partnership histories were collected partly retrospectively during an initial interview and partly during the panel (in each wave) thereafter. This was especially problematic in the British case where certain information about the characteristics of the job were not asked in all interviews and thus not present in all of the files (i.e. public sector, working schedule or contractual type) and had to be (partly) reconstructed, when possible, from the remaining information or matched from different data files<sup>1</sup>. After reconstruction and linkage to form continuous histories (and avoid left truncation) subsequent partnerships by the same individual had to be distinguished and each union formed by at least a different individual had to be identified to construct the calendar for the processes of interest (which also entailed calibration of calendars for repeated events in each process). A considerable amount of work thus involved resolving inconsistencies, lags, overlaps or partially missing information across waves and –working at a household level- across partners' answers too (e.g. about the date of start or end of a relationship or its type). The data with the corrections adopted to create clean and consistent partnership histories (next to the original source information) and with unions identifiers over time, as well as the documentation explaining the criteria adopted have all been deposited with ISER (Dr. Heather Laurie) and ESDS. The syntax (using STATA) for the proposed corrections for household relationships for ECHP data is downloadable instead from the project website.

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<sup>1</sup> Due to this, for the retrospective part in the case of UK, indicators for missing information were introduced in the analyses for 'temporary contract', 'public sector' and 'part-time' in those cases where information could not be reconstructed from other available variables. For reconstructing the employment histories, data from both Halpin's (1997) file and the original BHPS individual files were used.

## Results

“What is to be guarded is not so much the ‘married women’s right to work’  
as the ‘working women’s right to marry and have children’ ”  
(Myrdal, 1939[1968]: 121)

This chapter presents findings from the various analyses of the three longitudinal data sources. The chapter has three main sections. The first presents results from the analyses of sequences of employment in four different countries chosen from the ECHP dataset. The second and third sections present, respectively, the couple-level findings for Italy and the United Kingdom, with controls for both the effects of individual socio-demographic and for the unobserved characteristics, which is to say for both individuals (unobserved) heterogeneity and for endogeneity across processes. Results are presented in this chapter in a series of figures. In each figure, the strength of each predictor of the likelihood to make a certain transition (to childbirth, in or out of paid employment) is given next to each variable. While “n.s.” would indicate no statistically significant effect, the larger the positive (or negative) score of the predictor, the stronger its effect on accelerating (or delaying) the events occurrence. Full results are given in Appendix A.

### 3.1 ECHP based analyses: differences in institutional contexts

First results (Figures 2) show remarkably different proportions of breadwinning arrangements at the household level and different rates of employment transitions at the individual level across countries. Especially after childbirth, countries like the United Kingdom or the Netherlands show a much greater variety of working time arrangements coupled with higher transitions from one state to another (higher flexibility). These countries also display a lower incidence of temporary employment (Fig. 3), both in the public and in the private sector (Denmark being the country with the highest public employment among women and Spain that with the highest incidence of temporary work in the private sector).

We also found significantly higher proportion of self-employment (especially among men) in Italy, Ireland, Greece and Spain and higher levels of temporary public employment (especially among women) in Denmark and Finland. Temporary employment in the private sector has its greatest spread in Spain and Denmark, followed by the Netherlands, Ireland, Greece and Portugal. Unpaid work in a family enterprise is to be found (almost exclusively) among women in Greece and (to a lesser extent) in Ireland and Italy. These patterns of labour market participation are consistent with a sharp North-South divide, whereby Southern countries experience a much higher polarisation of employment

outcomes: here the full-time double breadwinning arrangement, together with the single breadwinning couples, have a higher persistence (i.e. are less likely to change the employment participation of either spouse over time). In contrast, a higher differentiation in working patterns, a lower degree of temporary employment and higher transition rates for different hours arrangements are to be found in the United Kingdom, where flexible time arrangements and part-time are more easily available and where the labour market seems easier to re-enter.

Figures 4 illustrate the extent of differences in ‘occupational class’ composition across countries, revealing different production systems. Particularly striking are the differences between men and women in each country, who seem to spend their working capacities in two very different segments of the labour market. Inspecting the sequences, there are also differences in the transitions between classes (more so for women than for men). However the multivariate analyses with ECHP data around the five processes of interest revealed no big class effects. It was not possible to test for couple trajectories from the onset of partnership (and thus for unobserved heterogeneity and endogeneity), because the ECHP survey collected no retrospective histories for employment and partnership, nor the starting date or the current union for cohabitants. This preliminary evidence around employment characteristics and patterns was thus further explored in its effects on fertility through multivariate analyses for the Italy and the UK, using two alternative data sources: the BHPS and ILFI.

Fig. 2. In and out of the labour market: sequences of employment

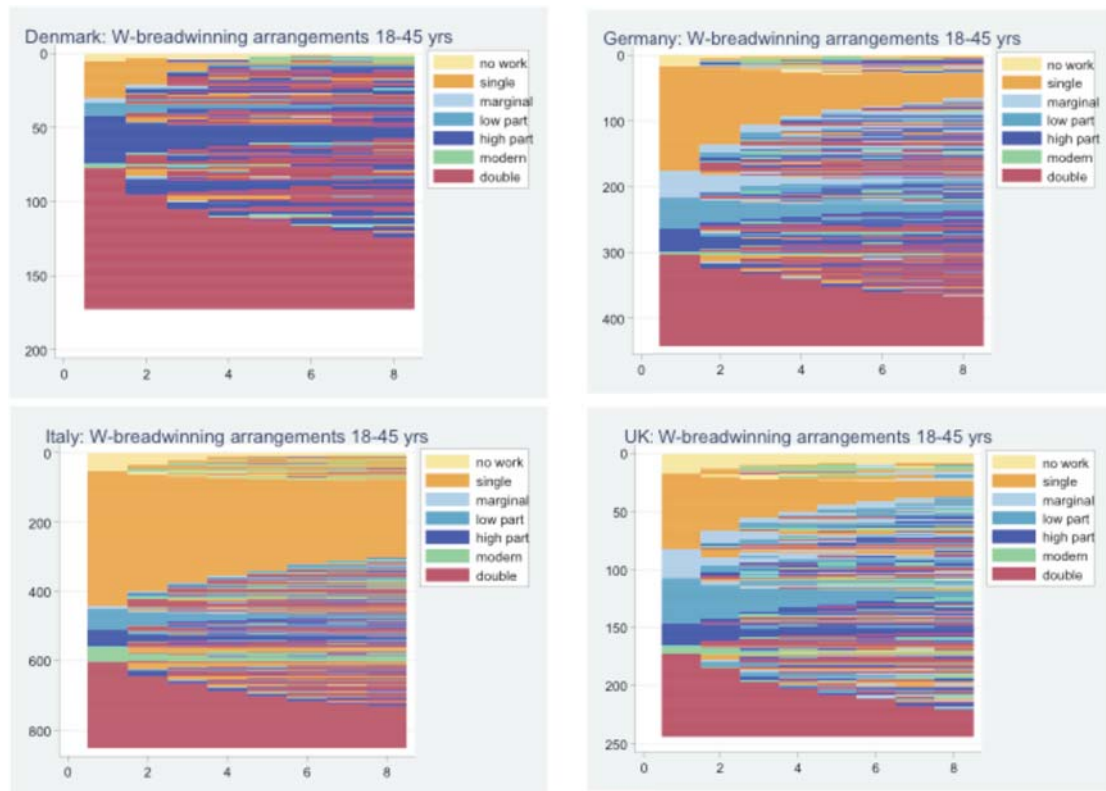


Fig. 3. Proportions of different types of employment relations across sex and age

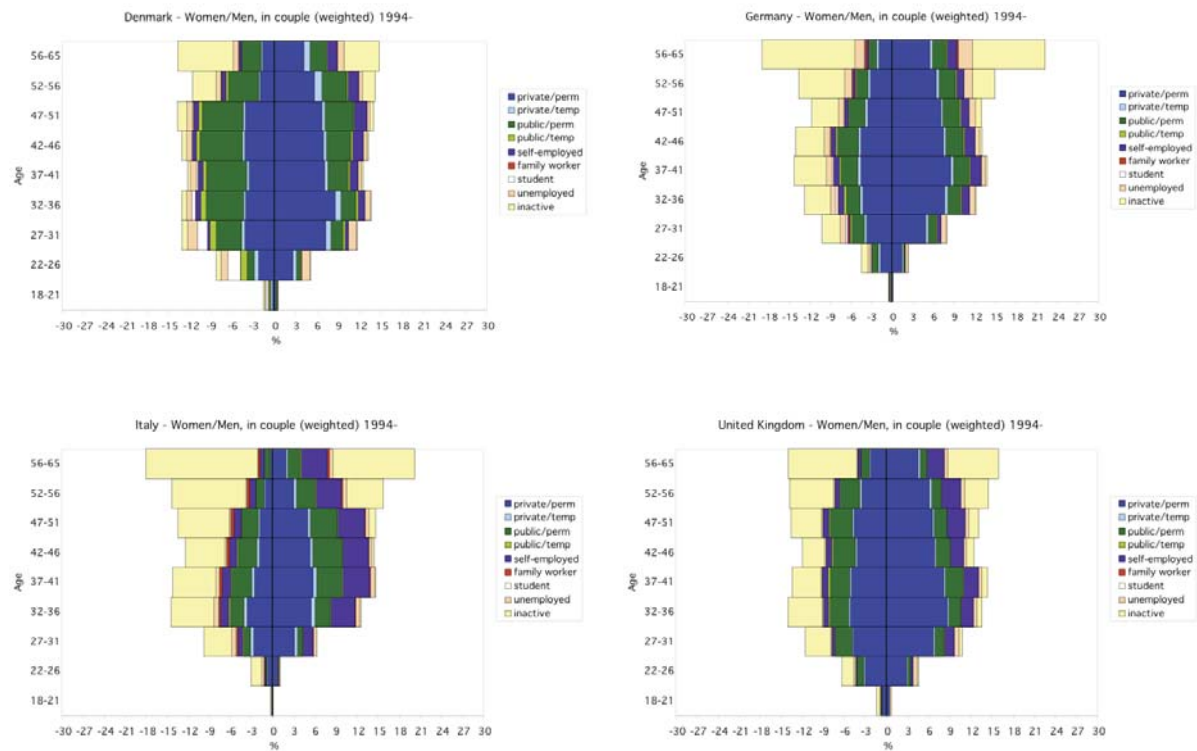
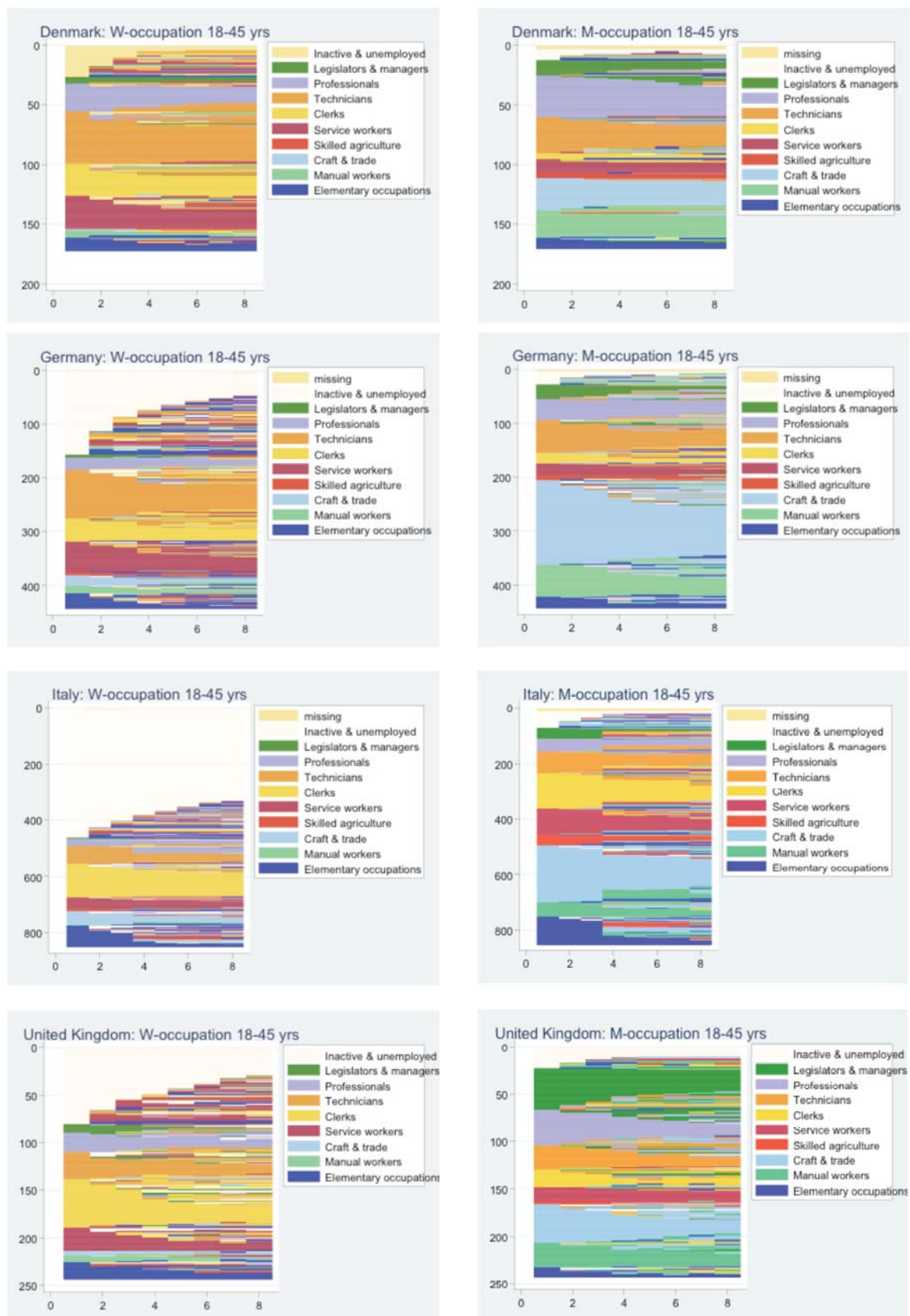


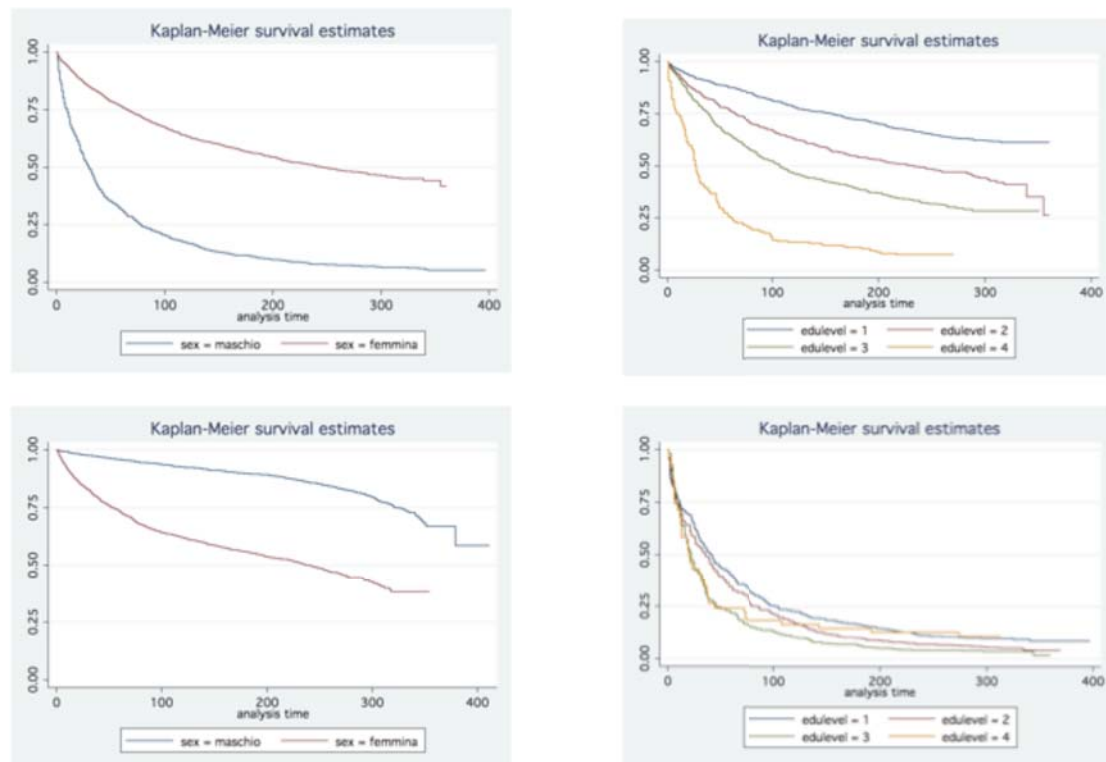
Figure 4: “Occupational class” changes and composition (ECHP data ‘94-2001)





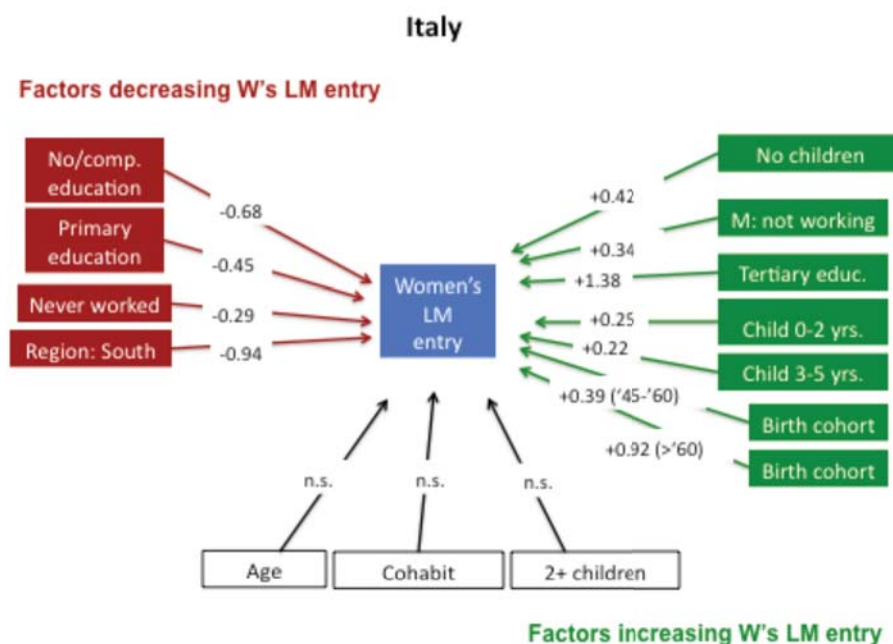
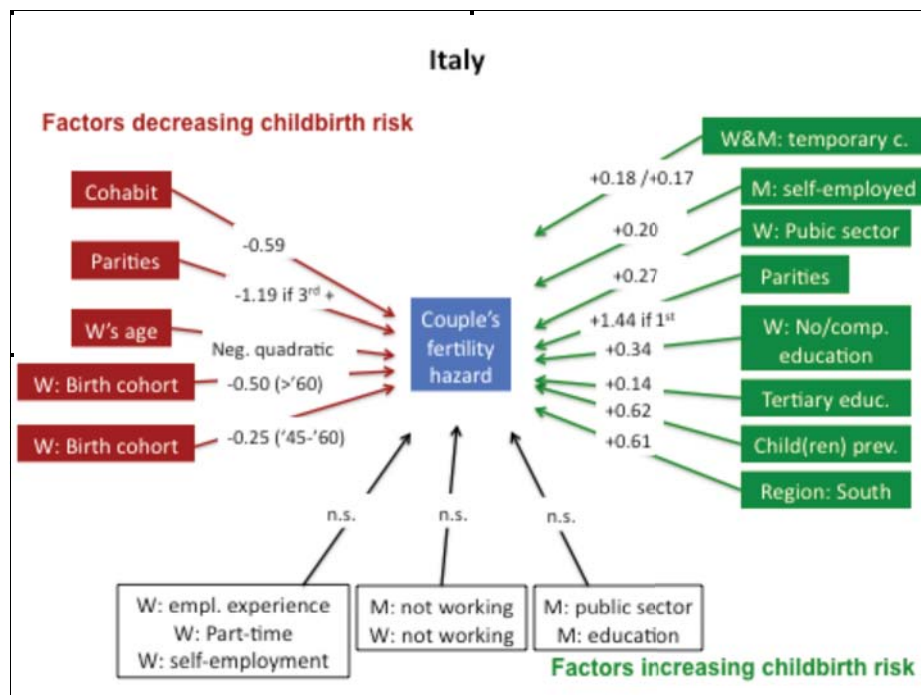
### 3.2 ILFI based analyses

Figure 5. Hazard of entry into (top) and exit from (bottom) the labour market.



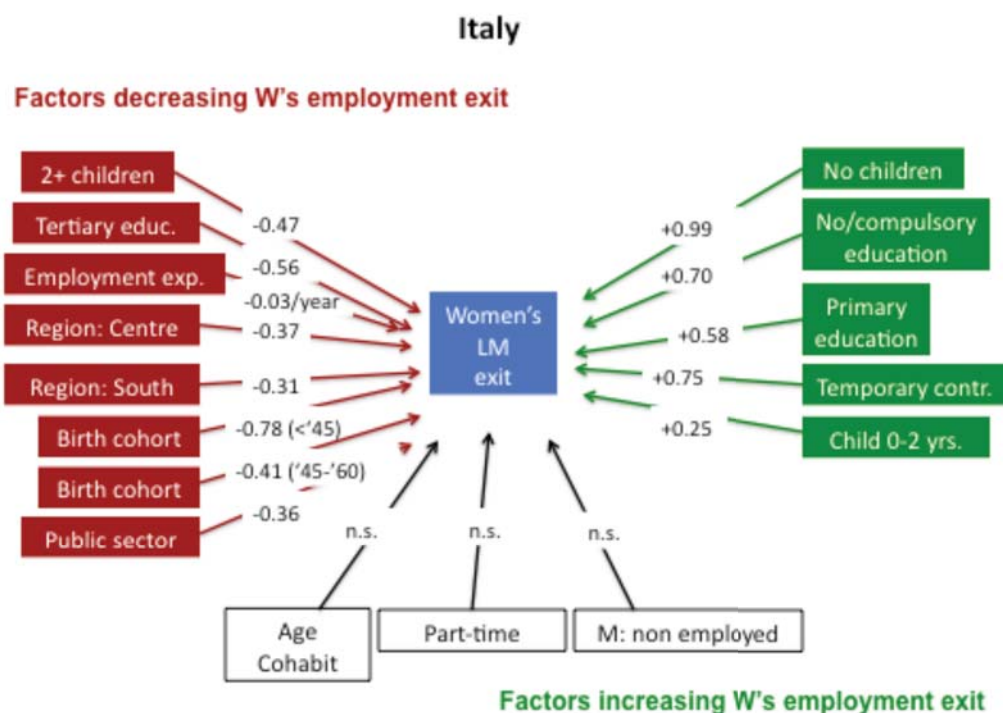
The estimation of survival functions illustrate how women in Italy experience a much higher risk of exiting employment than men do, and a much lower risk of to re-entry. This reflects the rational strategy pursued by Italian women to stick to their jobs as long as they can (even when scarcity of flexible working schedules or reduce hours employment make conciliation difficult) and their rational postponement of fertility (a quite remarkable later onset as compared to British women) until a stable position in the labour market has been achieved. In the right column figures of Figure 5, we can also see how educational credentials are a basic asset for women's entry (or re-entry) into employment after interruptions, in a way that has no correspondence for men. We can thus expect a selection effect for women, whereby lower educated women, who are more likely to interrupt employment, will also have lower chances of being able to re-enter it, and thus more likely to expose their households to the risk of falling into poverty should the main income provider experience unemployment or should the union break. These results were confirmed by further evidence from multilevel multiprocess models (Figures below).



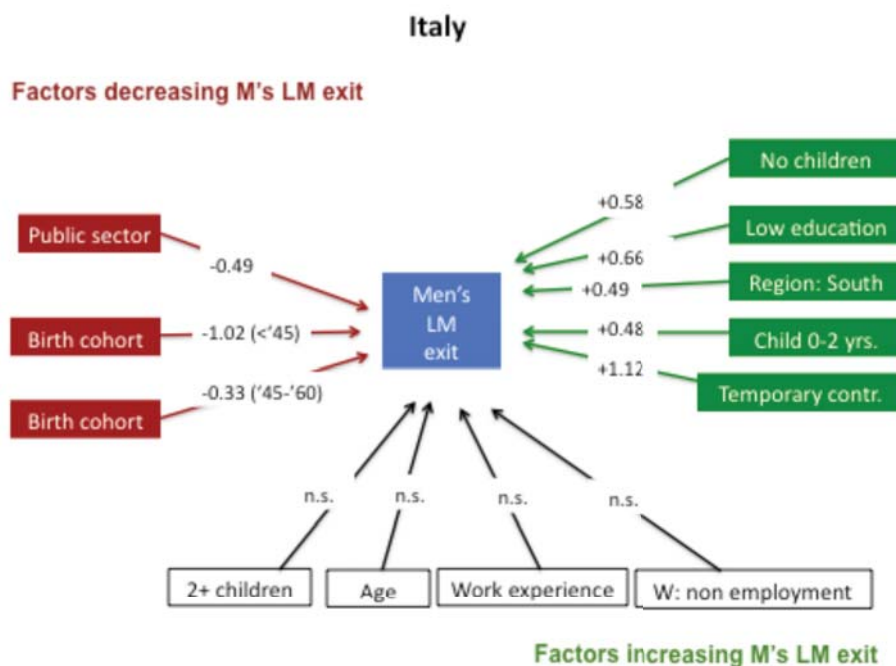
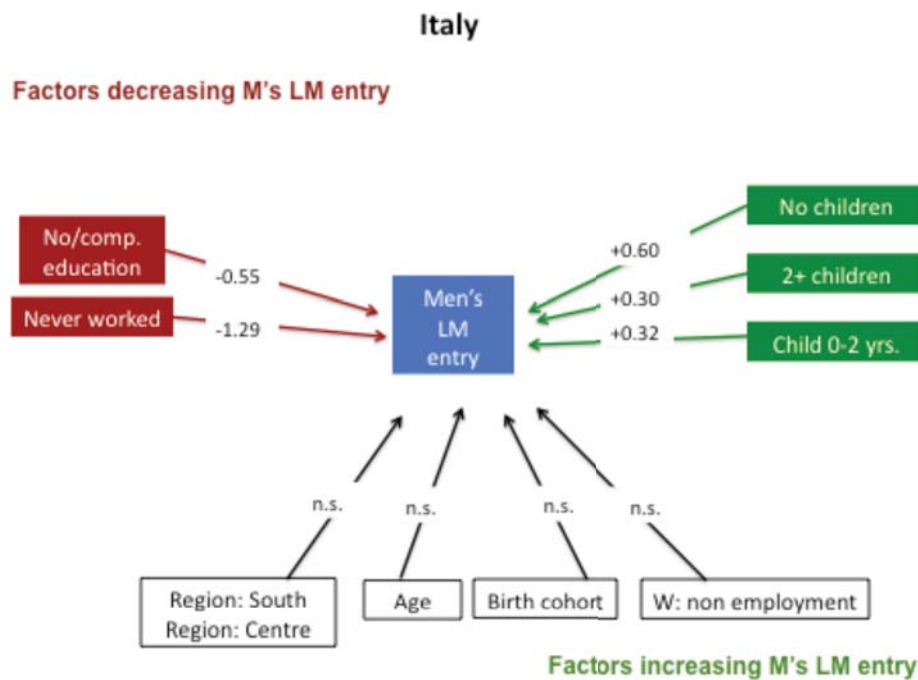


Results from multivariate analyses show how in Italy public sector employment is a better way for women to both secure employment and reach a higher fertility (should they desire one). It thus may be a sort of 'conciliation' strategy pursued (or opportunity benefitted from) in a setting where childcare provision for ages 0-2 is extremely scarce as are part-time jobs, and where labour market entry for women –especially– is difficult. Jobs in the public sector provide more family-friendly employment conditions because of reduced working hours, career advancements based on seniority and job security. Other measured characteristics show that cohabiting couples in Italy have lower fertility but that

cohabitation here does not affect women's patterns of attachment to employment. Education, as we mentioned earlier, constitutes an asset for women with respect to employment opportunities, together with accumulated previous work experience that decreases the risk of career interruptions. Non employment in Italy has no effect on risk of childbirth, but individual's non employment (mostly unemployment for men) increases their partner's entry in turn. As expected, in the Southern part of the country it is more difficult to enter employment but, once women are in, they are also considerably less likely to drop out (this is not the case for men in the South). We interpret this as the result of a selection effect: given the higher barrier at entry those women who succeed to enter employment are thus more committed to (or more in need of) work, or do so by entering more secure jobs, and certainly expect higher costs for re-entry when considering exiting the labour market. This points to the extremely sharp trade-off Italian women experience between choosing to realise higher fertility preferences or pursuing a continuous employment career (let alone career progression), especially in the South.



As already noted in Figure 5, there is a linear gradient in the effect of educational credentials for women: higher qualifications foster more continuous employment by lowering exits and accelerating entries. Interestingly, tertiary education is also associated to higher fertility, probably because of a more conspicuous childbirth postponement but also because these are those women have a higher earning capacity and are better able to afford outsourcing unpaid domestic and care labour (Mills et al 2008).

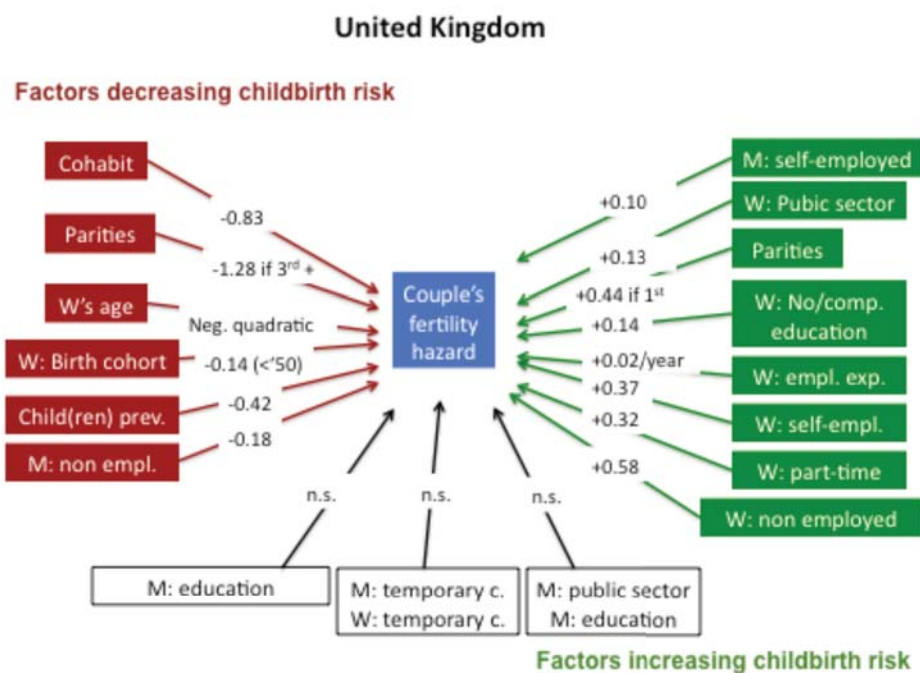


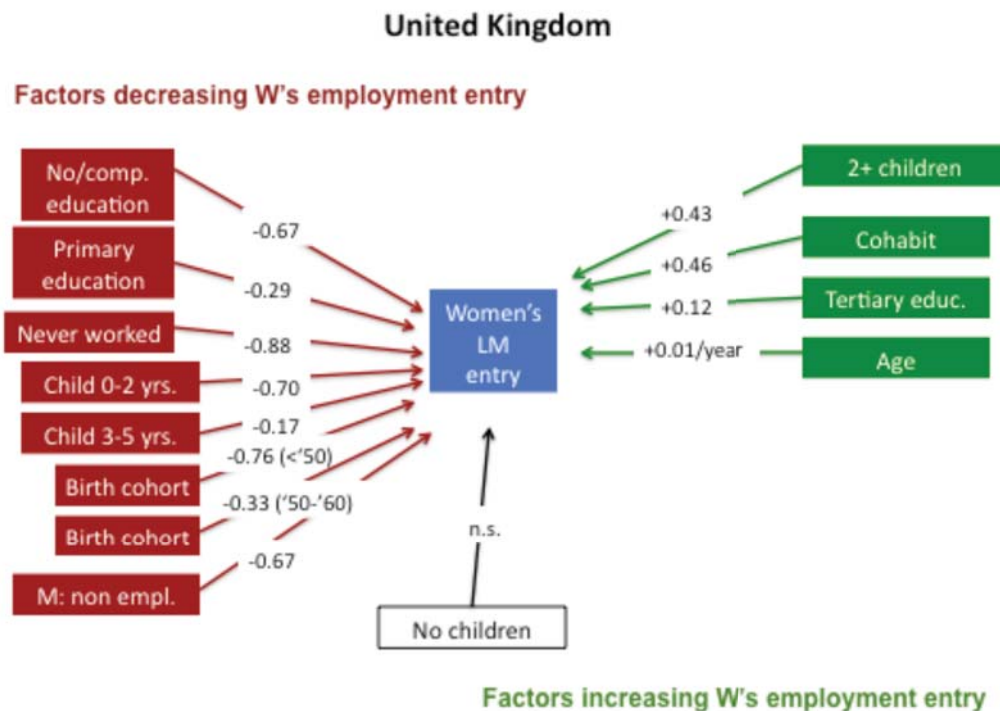
Temporary employment, unexpectedly, only has a small effect and in the opposite direction in the transition to childbirth in Italy. After the first birth (where previous analyses have shown a small negative effect, Bernardi and Nazio 2005) women who stayed or re-enter employment on a temporary contract basis are no less likely to conceive a child than women who have a permanent contract or are self-employed. We explain this with reference to the entitlement to maternity leave that women still acquire, even if on a temporary contract (which would allow them to “prolong” the provision of some source of

income, especially if they expect no renewal of the contract). Birth cohort points to the sharp decline in fertility across birth cohorts, at least in part due to the introduction and take up of modern contraception, the decline in religiosity and the adoption of different lifestyles. Children from previous unions (or as single parents) have a positive effect on subsequent childbirth, highlighting how in Italy children are “union specific” and may be perceived as an essential part of the constitution of a “family”, beside being a means to establish the partnership and grant it stability.

Given these effects we believe that government policies should be aimed at creating incentives appropriate to the lower segments of the labour force (less educated, more at risk of unemployment and often homogeneously partnered to equally “weaker” spouses), and this type of household, to participate into employment. This could be better achieved through provision of services and externalisation of care work more effectively than through income substitution by rewarding women’s non employment, which would instead sustain the vicious circle of weakness onto the labour market and entry into precarious, low segment of the labour market with lower economic rewards and thus –also- a weaker incentive to maintain employment.

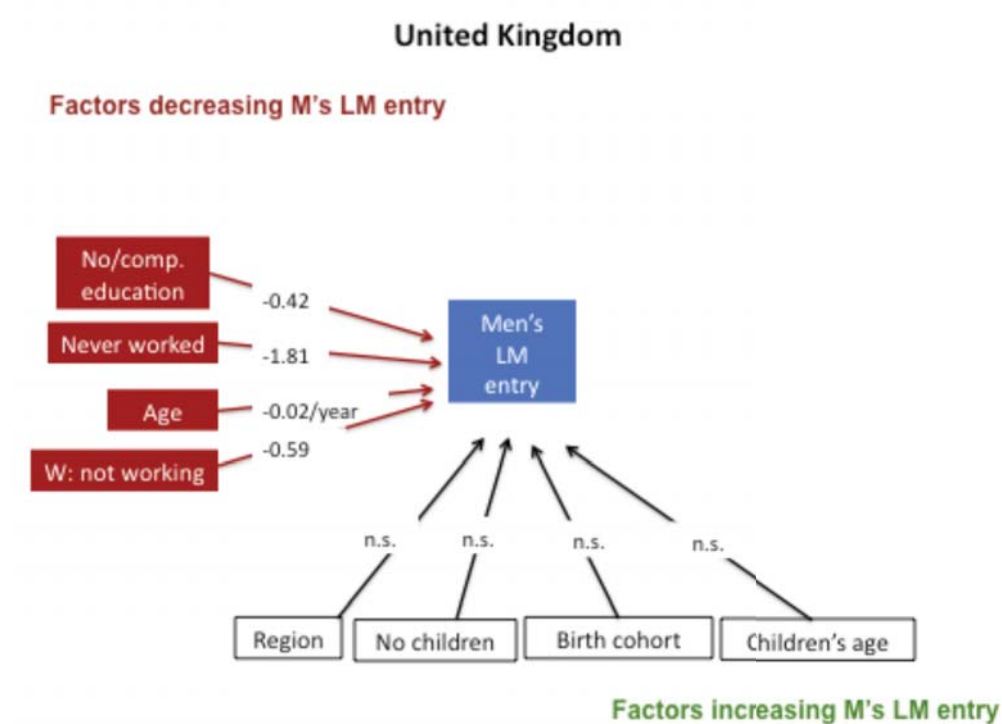
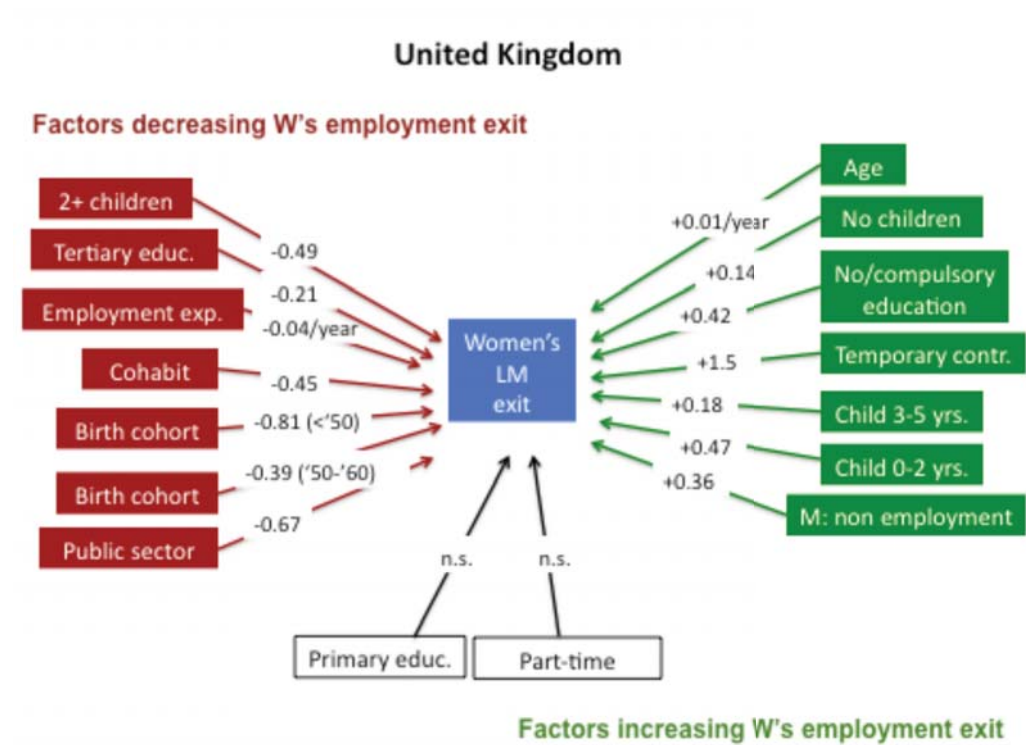
### 3.3 BHPS based analyses

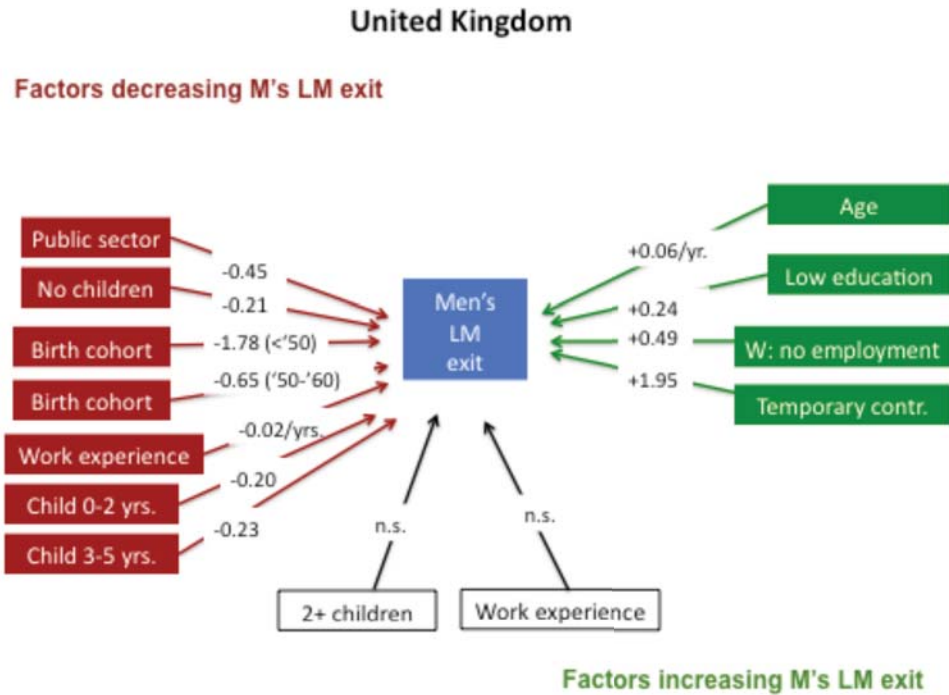




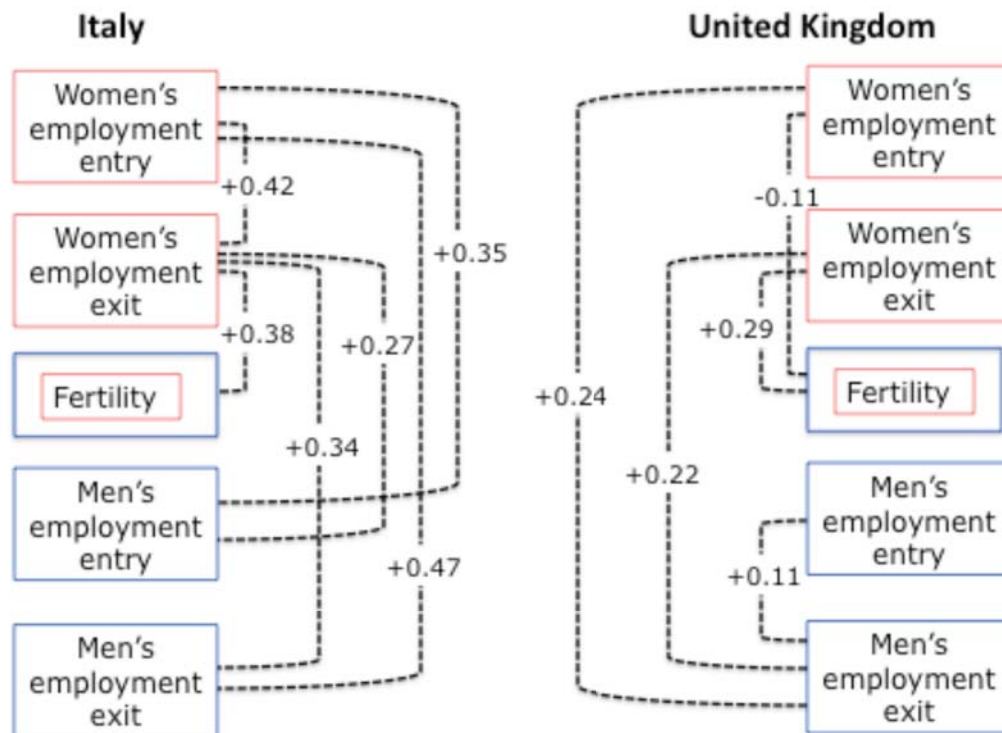
Temporary employment seems not to be a barrier to fertility in Britain, for either men or women. However, flexible jobs seem to offer British women lower advancement possibilities and higher unemployment risks but are also used interspersed with (caregiving) exits (Golsh 2008). Temporary employment, associated here too with a much higher risk of exit, may fit women's work orientations and family "obligations" by introducing some more continuity along their overall careers, even though it often means being employed in the lower segments of the labour market. It is important to highlight here the strong and significant effect of *both* partners' non-employment (mainly unemployment for men) on depressing the other spouse's attachment to the labour market (also found by Golsh 2008 for women). This is the opposite effect to that which we noted in Italy, and it is explained by the disincentives built into the benefit system for the other partner to continue working should the main income provider fall in to what is expected to be long term unemployment. In our view this is a highly relevant finding, in that highlights the possibility that rational mechanisms linked to entitlement to welfare benefits in case of unemployment, especially for those employed in lower segments of the labour market, might offer incentives to "low-pay no-pay cycle" for the already weaker households. It becomes even more relevant when we consider this effect together with the endogeneity found between the unobserved characteristics and individuals transitions out of employment (below). A further contrast to the Italian case also comes from children from previous unions, which seem to depress rather than augment fertility in Britain.







Public sector employment, in Britain alike in Italy, strongly decreases exits from employment for both men and women and goes along a higher fertility.



The structure of covariance between unobserved characteristics for each process is represented above (random part of the models in the Tables attached). Again, we can observe how in both countries a lessened participation of women in employment is associated with couples' higher fertility, while there seem to be no unobserved trait, attitude or value that seems to co-influence both transitions around employment and fertility for men. Interestingly, we note how in both countries, next to a "compensation" strategy for income loss by women being more likely to enter employment when men exit it (positive effect), there is a "weak-attachment" household's profile whereby those households more likely to experience one partner's loss of employment are also those more likely to experience exits from the other. Whereas this is to be read together with an opposite direct effect in Italy, it adds to a direct effect that is in line with this in Britain, as discussed earlier.

## Key findings

### **Uncertainty in employment relations (temporary contracts) strongly influences employment exits but not fertility in the UK and very little so in Italy**

- Household fertility choices are influenced by both observed and unobservable partners' individual characteristics and by their employment decisions. Temporary employment, however, does not seem to directly impact on childbirth decisions either in the analyses with ECHP data (for Denmark, Germany, Italy or the UK) or in those with national panel data for the United Kingdom and Italy (where a very small effect is found).

### **Employment and fertility careers are jointly shaped only for women**

- Once other factors, observed and unobservable, are accounted for a higher fertility is associated with a lessened attachment to employment for women but not for men in both Italy and the UK.
- The interrelation between fertility and employment is stronger for women than for men: in those households where women tend to exit employment more easily, fertility tends to be higher (both in UK and Italy); in the UK, those households where women tend to enter more frequently (or earlier) into employment after interruptions have a lower fertility;

### **Partner's careers are interdependent**

- Although there is no direct interdependence between men's employment participation decisions and the couple's fertility, men's employment is



endogenously related to their partners' employment decision (which in turn is linked to fertility)

- Men's and women's employment participation (and interruption) choices are to some extent jointly shaped.
- Some unobserved traits, in both countries, point to a polarisation between households' behaviour in face of men's employment exits: in households where men are more likely to exit employment, women tend to either exit more themselves (either due to homogamy or maximising on welfare benefits) or to enter more (compensating for income loss). This second household type is more exposed to the risk of falling into a poverty trap.
- Simultaneous equation modelling is able to reduce the bias in estimates that traditional models bring about by ignoring individual unobservable traits and preferences (unobserved heterogeneity); it also accounts for the partial joint determination (endogeneity) of the fertility and employment careers, and that of both partners' employment trajectories.

These findings, by providing an answer to the research questions, show how all the objectives of the project have been fully met.

## Activities and Outputs

Nazio, T (2008): “Unions’ Histories From BHPS”, document sent to Dr. H. Laurie, Survey Manager at ISER (Essex University), together with the data-set produced for the identification and cleaning of union histories in BHPS (also submitted to ESDS).

A project webpage was produced: <http://users.ox.ac.uk/~sfos0054/storks.html>

The syntax program (STATA) for the correction of the ECHP relationship file and the identification of partners and children was made available to other interested ECHP users through the project webpage

The principal investigator created and maintained a wide network of researchers working on similar areas by participating in the GeNet ESRC Programme, in the EQUALSOC (EU-funded) network of excellence, in the WORKCARE (EU FP6 project), and by participating to several international conferences. She also cooperated directly with Prof. Chiara Saraceno at the WZB (Berlin), Dr. Pau Miret Gamundi at the CED (Barcelona), Prof. Maria Jose’ Gonzalez at UPF (who was visiting scholar at the Department in Oxford in order to contribute to the project) and with Prof. Manuela Naldini at the University of Turin.

### 4.1 Academic meetings

Nazio T. (2008a), “Transitions in Employment around Childbirth” paper presented at Gender, Class, Employment and Family International Conference, City University, London, March 27-28<sup>th</sup> 2008

Nazio T (2008b), “Sense and sensibility: Employment transitions and fertility decisions” paper presented at the RC28 Spring meeting at EUI/RSCAS, Badia Fiesolana, May 15-17<sup>th</sup> 2008

Nazio T. (2008c), “On the (unobserved) negotiation of employment and childbirth” paper presented at European Population Conference - EPC2008, Barcelona, July 12<sup>th</sup> 2008

Nazio T. (2008d), “‘Striking storks?’ Una investigación sobre la interrelación entre decisiones sobre ocupación y fecundidad”, paper presented at the Seminar Series of the Centre for Demographic Studies (CED) at the Autonomous University Barcelona, July 24<sup>th</sup> 2008

Nazio T. (2009) “On the Interdependence between Employment and Childbirth”, paper presented at the Department of Sociology Seminar Series, Surrey University, Guilford, 29<sup>th</sup> January 2009

## 4.2 Non-Academic meetings

Nazio T. (2009b) “¿Cigüeñas en huelga? Interrelaciones entre las decisiones sobre ocupación y fecundidad” paper presented to local policy makers and citizens at the Observatori Social Barcelona, February 2<sup>nd</sup> 2009 [www.bcn.cat/observatoribcn]

## 4.3 Impacts

This project allowed the starting up and the consolidation of international networks of collaboration to which it also contributed by the presentation and discussion of findings. Especially within the WORKCARE European funded project and the EQUALSOC Network of Excellence. The project also arose a high degree of interest, which resulted in invitations to present the results in different universities overseas (e.g. among others Surrey University, Bocconi University, Turin, Trento and Autonomous University in Barcelona) and accepted to main sessions at prestigious international conferences (e.g. RC28, EPC 2008) and workshops (e.g. the California-Dutch collaboration to be held in Utrecht, which is expected to result in a new network of international collaboration and to draw a new research proposal). Particularly welcome was the invitation to present the results to policy makers by the local Government of Barcelona (Area of Social Affairs). Since final results were only recently achieved and the dissemination is still ongoing, we expect the interest to grow further in the coming months.

## 4.4 Further dissemination

We plan to submit two journal articles to international refereed journals. Specifically the first will include a discussion of the British case on the background of wider comparative evidence from the first part of the project. A second article will contrast the Italian and the British cases from the second part of the project, highlighting similarities and differences.

Further dissemination plans include a series of presentation of the research results, some of which are already scheduled at:

Cathie Marsh Centre for Census and Survey Research (CCSR), Manchester University (together with J. O'Reilly), February 17<sup>th</sup> 2009

Sociology Department Seminar Series of Trento University, Trento, March 20<sup>th</sup> 2009

Centro Dondena Seminar Series in Bocconi University, Milan, March 30<sup>th</sup> 2009

Seminar Series of the Social Sciences Department, Turin University, June 18<sup>th</sup> 2009

University of California-Utrecht University Collaborative Grant Program workshop "Economic and social arrangements in couple relationships: Change and continuity from an international perspective", Utrecht University, 27-28<sup>th</sup> August 2009

Applied to present an academic paper (pending of acceptance) at:

GeNet conference "Gender Inequalities in the 21st Century", Queens' College, Cambridge, March 26-27<sup>th</sup> 2009

"Employment Uncertainty and Family Dynamics" Joint workshop of the French National Institute for Demographic Studies, the Max Planck Institute for Demographic Research and Stockholm University, Berlin, July 3<sup>rd</sup> and 4<sup>th</sup> 2009

IUSSP XXVI International Population Conference, Marrakech, September 27<sup>th</sup> – October 2<sup>nd</sup> 2009

#### 4.5 Future research priorities

Given the policy relevant results with respect to household polarisation around men's employment exit, and the very surprising effect of men's non employment on women's lower attachment (also found by Golsh 2008; Nazio and O'Reilly forthcoming) we suggest two research priorities. First there is urgent need to be able to inspect, through qualitative research, the reasons of the higher drop out of women from employment, and longer time to re-entry, in case of men's exit. Is it this due to homogenous couples being employed in lower segments of the labour market and being thus more exposed to unemployment risk (or less motivated to pursue a life-long employment career, maybe due to lack of advancement incentives, or satisfaction in work due to little of autonomy or some other reason)? Or could this be the result of a strategy of rational maximisation of welfare benefits, thus linked to the incentive structure around income provision, given the shape of wage distribution in the United kingdom and the type of jobs accessible to the segment of population with lower educational credentials and a more precarious attachment to the labour market?

Secondly, it would be highly desirable to test again Italian results with data from a larger sample (maybe the Multiscopo Survey 2003), because the scarce numerosity of employment transitions for men did not allow to accurately control for unobserved heterogeneity and endogeneity between employment outcomes for them. It would also be helpful to contrast these results with those from other countries in order to reach a better grasp of which features of national institutional contexts might contribute to reduce endogeneity for women between employment and fertility careers. This could be achieved by pursuing the extension of these analyses to more countries, which have panel data with retrospective components like USA or Germany.

## ANNEX A. Tables with complete set of results

United Kingdom	Model 1	S.E.	Model 2	S. E.	Model 3	S. E.
<u>Fixed Part</u>						
<b>Fertility (couple) - 4537 events</b>	<b>-4.664</b>	<b>0.073</b>	<b>-4.692</b>	<b>0.074</b>	<b>-4.640</b>	<b>0.073</b>
18-30 months	0.360	0.042	0.365	0.042	0.377	0.042
30-60 months	0.306	0.041	0.326	0.041	0.341	0.041
60+ months	-0.446	0.056	-0.399	0.056	-0.395	0.055
Age (centred)	-0.019	0.006	-0.018	0.006	-0.018	0.006
Age2	-0.007	0.000	-0.007	0.000	-0.007	0.000
Cohabit	-0.775	0.047	-0.790	0.048	-0.830	0.048
1 <sup>st</sup> birth	0.417	0.039	0.451	0.040	0.438	0.039
3 <sup>rd</sup> & higher births	-1.216	0.051	-1.267	0.052	-1.276	0.052
Her Compulsory/no educ.	0.070	0.048	0.081	0.050	0.136	0.050
Her Primary educ.	-0.041	0.037	-0.039	0.038	-0.026	0.039
Her Tertiary educ.	0.052	0.051	0.045	0.052	0.039	0.053
Child(ren) from prev. union	-0.444	0.055	-0.464	0.056	-0.422	0.055
Her Not working	0.797	0.055	0.816	0.055	0.579	0.054
Her overall work experience (yrs.)	0.015	0.005	0.015	0.005	0.021	0.005
Her temp. contract	0.024	0.124	0.027	0.124	0.063	0.117
Her Public sector	0.156	0.060	0.158	0.060	0.129	0.058
Her Self-employed	0.316	0.100	0.324	0.101	0.366	0.093
Her Part-time	0.318	0.050	0.335	0.051	0.322	0.048
Her birth cohort (<'50)	-0.153	0.047	-0.146	0.049	-0.139	0.050
Her birth cohort ('50-'65)	-0.043	0.043	-0.036	0.044	-0.035	0.045
His not working	-0.150	0.058	-0.156	0.059	-0.177	0.061
His temp. contract	0.110	0.095	0.113	0.096	0.106	0.095
His public sector	-0.020	0.056	-0.018	0.057	0.001	0.054
His self-employed	0.118	0.048	0.119	0.049	0.098	0.048
His educ. Low	0.060	0.032	0.063	0.033	0.077	0.031
<b>Women's entry LM - 3615 events</b>	<b>-2.819</b>	<b>0.073</b>	<b>-2.748</b>	<b>0.076</b>	<b>-2.852</b>	<b>0.076</b>
24-60 months	-0.752	0.046	-0.638	0.045	-0.663	0.045
60+ months	-1.128	0.054	-0.893	0.054	-0.912	0.053
Age (centred)	0.006	0.003	0.009	0.003	0.010	0.003
Cohabit	0.419	0.049	0.451	0.052	0.464	0.052
No children	0.112	0.068	0.084	0.070	0.121	0.070
2+ children	0.353	0.049	0.338	0.050	0.431	0.049
Compulsory/no educ.	-0.622	0.054	-0.667	0.060	-0.673	0.059
Primary educ.	-0.270	0.041	-0.275	0.046	-0.286	0.045
Tertiary educ.	0.104	0.054	0.119	0.060	0.123	0.059
Never worked (yet)	-0.899	0.062	-0.949	0.064	-0.881	0.064
Youngest child 0-2 yrs.	-0.764	0.060	-0.810	0.060	-0.698	0.060
Youngest child 3-5 yrs.	-0.164	0.060	-0.233	0.059	-0.171	0.058
Birth cohort (<'50)	-0.706	0.054	-0.784	0.059	-0.764	0.059
Birth cohort ('50-'65)	-0.278	0.042	-0.314	0.048	-0.333	0.047
Partner not working	-0.580	0.057	-0.621	0.058	-0.673	0.059
<b>Women's exit LM - 3677 events</b>	<b>-4.425</b>	<b>0.089</b>	<b>-4.479</b>	<b>0.094</b>	<b>-4.384</b>	<b>0.092</b>
24-60 months	-0.376	0.040	-0.286	0.040	-0.286	0.040
60+ months	-0.521	0.054	-0.307	0.054	-0.281	0.053
Age (centred)	0.015	0.004	0.015	0.004	0.013	0.004
Cohabit	-0.312	0.047	-0.349	0.050	-0.448	0.050
No children	0.113	0.069	0.163	0.072	0.139	0.069
2+ children	-0.214	0.053	-0.271	0.055	-0.494	0.055
Compulsory/no educ.	0.318	0.053	0.387	0.060	0.420	0.059
Primary educ.	0.078	0.040	0.088	0.045	0.087	0.045
Tertiary educ.	-0.182	0.056	-0.205	0.062	-0.212	0.062
Part-time	0.039	0.041	0.029	0.042	0.069	0.042
Temporary contr.	1.446	0.064	1.491	0.066	1.503	0.066
Work experience (yrs.)	-0.041	0.005	-0.043	0.005	-0.037	0.005
Public sector	-0.649	0.059	-0.666	0.061	-0.669	0.060

Youngest child 0-2 yrs.	0.614	0.065	0.687	0.067	0.473	0.067
Youngest child 3-5 yrs.	0.236	0.070	0.287	0.071	0.184	0.071
Birth cohort <45	-0.845	0.060	-0.869	0.067	-0.807	0.066
Birth cohort '45-'60	-0.399	0.047	-0.410	0.052	-0.390	0.052
Partner not working	0.460	0.060	0.459	0.063	0.357	0.065
<b>Men's entry LM - 1987 events</b>	<b>-1.916</b>	<b>0.085</b>	<b>-1.637</b>	<b>0.095</b>	<b>-1.703</b>	<b>0.097</b>
24-60 months	-1.219	0.074	-0.848	0.063	-0.810	0.064
60+ months	-2.029	0.129	-1.459	0.105	-1.356	0.104
Age (centred)	-0.016	0.004	-0.022	0.004	-0.022	0.005
No children	0.078	0.080	0.052	0.087	0.028	0.090
Low educ.	-0.350	0.048	-0.430	0.059	-0.417	0.061
Never worked	-1.554	0.089	-1.848	0.094	-1.814	0.095
Youngest child 0-2	0.114	0.086	0.093	0.090	0.095	0.091
Youngest child 3-5	0.136	0.095	0.142	0.094	0.137	0.095
Birth cohort <45	-0.195	0.082	-0.140	0.097	-0.136	0.101
Birth cohort '45-'60	-0.116	0.061	-0.068	0.075	-0.047	0.077
Partner not working	-0.553	0.051	-0.619	0.054	-0.586	0.056
<b>Men's exit LM - 1958 events</b>	<b>-5.012</b>	<b>0.114</b>	<b>-5.269</b>	<b>0.128</b>	<b>-5.334</b>	<b>0.129</b>
24-60 months	-0.847	0.061	-0.609	0.062	-0.591	0.063
60+ months	-1.362	0.069	-0.871	0.074	-0.820	0.074
Age (centred)	0.053	0.005	0.057	0.006	0.057	0.006
No children	-0.422	0.092	-0.258	0.102	-0.213	0.102
2+ children	0.143	0.068	0.131	0.075	0.077	0.076
Low educ.	0.194	0.047	0.249	0.057	0.239	0.057
Temporary contr.	1.949	0.072	1.979	0.081	1.953	0.082
Work experience (yrs.)	-0.019	0.005	-0.022	0.006	-0.021	0.006
Public sector	-0.434	0.093	-0.464	0.101	-0.452	0.101
Youngest child 0-2	-0.211	0.085	-0.162	0.091	-0.195	0.091
Youngest child 3-5	-0.207	0.091	-0.219	0.094	-0.231	0.095
Birth cohort <45	-1.691	0.090	-1.836	0.106	-1.785	0.107
Birth cohort '45-'60	-0.623	0.062	-0.704	0.077	-0.651	0.077
Partner not working	0.433	0.051	0.452	0.056	0.489	0.056

Random Part

Level: Household – 5083 couples

Fertility (var.)	0.043	0.017	0.104	0.019
Her LM entry (var.)	0.177	0.023	0.186	0.023
Her LM exit (var.)	0.212	0.026	0.274	0.027
His LM entry (var.)	0.375	0.040	0.445	0.044
His LM exit (var.)	0.795	0.063	0.877	0.066
Her entry/fertility			-0.113	0.017
Her exit/fertility			0.289	0.018
Her exit/Her entry			0.026	0.022
His entry/fertility			-0.053	0.030
His entry/Her entry			0.078	0.033
His entry/Her exit			0.031	0.036
His exit/fertility			0.097	0.027
His exit/Her entry			0.240	0.031
His exit/Her exit			0.218	0.033
His exit/His entry			0.114	0.052

Italy	Model 1	S.E.	Model 2	S. E.	Model 3	S. E.
<u>Fixed Part</u>						
<b>Fertility (couple) – 5608 events</b>	<b>-5.098</b>	<b>0.073</b>	<b>-5.361</b>	<b>0.081</b>	<b>-5.287</b>	<b>0.080</b>
18-30 months	-0.106	0.039	0.028	0.039	0.028	0.039
30-60 months	-0.115	0.037	0.128	0.036	0.127	0.036
60+ months	-0.738	0.045	-0.351	0.044	-0.355	0.044
Age (centred)	-0.104	0.005	-0.098	0.004	-0.097	0.004
Age2	-0.620	0.040	-0.692	0.038	-0.684	0.038
Cohabit	-0.388	0.144	-0.600	0.164	-0.592	0.163
1 <sup>st</sup> birth	1.076	0.032	1.453	0.033	1.436	0.032
3 <sup>rd</sup> & higher births	-0.869	0.039	-1.190	0.043	-1.188	0.042
Her Compulsory/no educ.	0.242	0.047	0.318	0.057	0.340	0.056
Her Primary educ.	0.041	0.044	0.084	0.051	0.099	0.051
Her Tertiary educ.	0.186	0.066	0.191	0.076	0.143	0.076
Child(ren) from prev. union	0.375	0.101	0.529	0.122	0.616	0.115
Her Not working	0.158	0.043	0.218	0.046	0.098	0.046
Region - Centre	0.065	0.036	0.089	0.043	0.082	0.043
Region – South & Islands	0.493	0.035	0.603	0.041	0.611	0.041
Her overall work experience (yrs.)	-0.003	0.003	-0.005	0.003	-0.009	0.003
Her temp. contract	0.102	0.060	0.135	0.067	0.181	0.064
Her Public sector	0.208	0.094	0.261	0.107	0.269	0.104
Her Self-employed	0.002	0.057	0.011	0.064	0.041	0.061
Her Part-time	0.043	0.070	0.040	0.078	0.037	0.075
Birth cohort <‘45	0.419	0.042	0.497	0.051	0.502	0.051
Birth cohort ‘45-‘65	0.189	0.039	0.252	0.046	0.249	0.046
His not working	0.069	0.056	0.057	0.063	0.100	0.062
His temp. contract	0.107	0.044	0.136	0.051	0.167	0.050
His public sector	0.055	0.052	0.039	0.062	0.036	0.061
His self-employed	0.142	0.036	0.175	0.041	0.204	0.040
His educ. Low	-0.033	0.037	-0.000	0.045	-0.007	0.043
<b>Women’s entry LM - 1066 events</b>	<b>-4.057</b>	<b>0.109</b>	<b>-4.078</b>	<b>0.123</b>	<b>-4.330</b>	<b>0.133</b>
24-60 months	-0.776	0.086	-0.557	0.082	-0.491	0.086
60+ months	-1.140	0.092	-0.682	0.092	-0.526	0.097
Age (centred)	-0.011	0.007	-0.012	0.007	-0.015	0.007
Cohabit	0.082	0.236	-0.013	0.282	-0.042	0.309
No children	0.265	0.092	0.382	0.095	0.422	0.099
2+ children	0.059	0.080	-0.004	0.081	0.009	0.085
Compulsory/no educ.	-0.583	0.087	-0.684	0.100	-0.682	0.108
Primary educ.	-0.429	0.081	-0.487	0.095	-0.455	0.103
Tertiary educ.	1.067	0.118	1.355	0.144	1.384	0.158
Never worked (yet)	-0.439	0.072	-0.461	0.080	-0.289	0.085
Region - Centre	-0.014	0.073	-0.000	0.085	0.015	0.092
Region – South & Islands	-0.774	0.083	-0.898	0.094	-0.939	0.101
Youngest child 0-2	0.161	0.086	0.214	0.085	0.248	0.087
Youngest child 3-5	0.219	0.093	0.212	0.088	0.217	0.090
Birth cohort <‘45	-0.901	0.097	-0.950	0.110	-0.919	0.119
Birth cohort ‘45-‘65	-0.402	0.074	-0.403	0.089	-0.387	0.097
Partner not working	0.199	0.118	0.241	0.126	0.338	0.129
<b>Women’s exit LM - 1047 events</b>	<b>-5.145</b>	<b>0.135</b>	<b>-5.251</b>	<b>0.147</b>	<b>-5.472</b>	<b>0.146</b>
24-60 months	-0.312	0.093	-0.189	0.092	-0.138	0.094
60+ months	-0.205	0.091	0.025	0.091	0.131	0.091
Age (centred)	-0.012	0.008	-0.006	0.008	0.008	0.008
Cohabit	-0.057	0.242	-0.124	0.269	-0.193	0.257
No children	0.462	0.089	0.591	0.093	0.987	0.086
2+ children	-0.072	0.084	-0.087	0.085	-0.475	0.090
Compulsory/no educ.	0.619	0.098	0.688	0.110	0.696	0.106
Primary educ.	0.480	0.082	0.577	0.093	0.579	0.089
Tertiary educ.	-0.593	0.153	-0.654	0.164	-0.556	0.157
Region - Centre	-0.337	0.074	-0.379	0.084	-0.368	0.080
Region – South & Islands	-0.340	0.088	-0.359	0.098	-0.306	0.095

Part-time	0.066	0.089	-0.001	0.100	0.006	0.098
Temporary contr.	0.652	0.075	0.794	0.084	0.748	0.082
Work experience (yrs.)	-0.030	0.007	-0.030	0.008	-0.026	0.008
Public sector	-0.467	0.188	-0.439	0.194	-0.360	0.186
Youngest child 0-2	0.403	0.090	0.469	0.088	0.468	0.090
Youngest child 3-5	-0.017	0.098	0.033	0.094	0.049	0.098
Birth cohort <'45	-0.779	0.103	-0.833	0.116	-0.781	0.111
Birth cohort '45-'65	-0.409	0.077	-0.466	0.088	-0.412	0.085
Partner not working	0.114	0.147	0.136	0.154	0.139	0.148
<b>Men's entry LM - 441 events</b>	<b>-3.386</b>	<b>0.203</b>	<b>-3.229</b>	<b>0.221</b>	<b>-3.335</b>	<b>0.218</b>
24-60 months	-0.711	0.121	-0.491	0.111	-0.491	0.111
60+ months	-1.427	0.155	-1.054	0.142	-1.044	0.140
Age (centred)	-0.074	0.009	-0.079	0.010	-0.073	0.010
No children	0.507	0.152	0.536	0.153	0.599	0.151
2+ children	0.379	0.137	0.357	0.137	0.300	0.136
Low educ.	-0.484	0.113	-0.554	0.128	-0.554	0.125
Never worked	-1.200	0.125	-1.316	0.137	-1.286	0.134
Region - Centre	-0.142	0.143	-0.172	0.159	-0.118	0.155
Region - South & Islands	-0.224	0.127	-0.267	0.141	-0.233	0.139
Youngest child 0-2	0.309	0.137	0.313	0.135	0.324	0.134
Youngest child 3-5	0.138	0.160	0.153	0.153	0.181	0.152
Birth cohort <'45	-0.138	0.139	-0.141	0.158	-0.137	0.155
Birth cohort '45-'65	-0.147	0.131	-0.174	0.151	-0.137	0.147
Partner not working	0.028	0.111	0.079	0.118	0.158	0.118
<b>Men's exit LM - 430 events</b>	<b>-6.977</b>	<b>0.257</b>	<b>-7.348</b>	<b>0.287</b>	<b>-7.370</b>	<b>0.287</b>
24-60 months	-0.802	0.169	-0.647	0.179	-0.637	0.180
60+ months	-1.035	0.144	-0.697	0.157	-0.668	0.158
Age (centred)	0.072	0.013	0.069	0.015	0.072	0.015
No children	0.431	0.158	0.542	0.164	0.575	0.165
2+ children	0.151	0.125	0.111	0.130	0.147	0.130
Low educ.	0.651	0.135	0.658	0.150	0.658	0.149
Region - Centre	0.124	0.136	0.130	0.147	0.109	0.148
Region - South & Islands	0.489	0.122	0.511	0.134	0.489	0.134
Temporary contr.	1.018	0.115	1.120	0.131	1.123	0.130
Work experience (yrs.)	-0.006	0.010	-0.001	0.012	-0.004	0.012
Public sector	-0.450	0.216	-0.492	0.233	-0.486	0.231
Youngest child 0-2	0.395	0.137	0.449	0.138	0.475	0.138
Youngest child 3-5	-0.109	0.152	-0.107	0.152	-0.091	0.151
Birth cohort <'45	-1.013	0.149	-1.029	0.166	-1.025	0.166
Birth cohort '45-'65	-0.318	0.139	-0.327	0.157	-0.328	0.157
Partner not working	0.145	0.105	0.159	0.113	0.213	0.113

## Random Part

Level: Household – 3012 couples

Fertility (var.)	0.273	0.020	0.277	0.020
Her LM entry (var.)	0.735	0.075	1.124	0.091
Her LM exit (var.)	0.564	0.068	0.518	0.064
His LM entry (var.)	0.388	0.085	0.376	0.083
His LM exit (var.)	1.418	0.194	1.453	0.194
Her entry/fertility			-0.039	0.035
Her exit/fertility			0.378	0.030
Her exit/Her entry			0.422	0.090
His entry/fertility			0.055	0.047
His entry/Her entry			0.346	0.102
His entry/Her exit			0.273	0.105
His exit/fertility			-0.030	0.048
His exit/Her entry			0.467	0.113
His exit/Her exit			0.343	0.101